**A2 Self-Scoring Rubric**

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| **Category** |  | **Criteria** | **Excellent (Full Points)** | **Good (Partial Points)** | **Needs Improvement (Few/No Points)** | **Points** |
| --- | --- | --- | --- | --- | --- | --- |
| **A. Data Structure (15 pts)** |  | **Song node** | Song has all fields + next pointer; types correct. | Minor omissions or a type/pointer slip. | Major errors or missing node. | 3/5 |
|  |  | **Member functions** | display() & formatDuration() correct; used in output. | One works or both partly correct. | Missing or incorrect. | 4/5 |
|  |  | **PlaylistManager data members** | Defines and uses private members (Song\* head;, int totalSongs;, bool shuffleMode;) consistently. | Defined but some unused/incorrect. | Missing or misused. | 3/5 |
| **B. File I/O (10 pts)** |  | **Load & parse** | Reads file, robustly parses all the fields | Some errors | No handling | 4/5 |
|  |  | **File errors** | Clear messages for file not found / invalid format. | Some cases covered, vague messages. | No handling. | 4/5 |
| **C. Business Logic — Function-Level (40 pts)** |  | **addSong(...)** | Inserts correctly (head/middle/tail), updates size, maintains list integrity. Screenshot required of adding and displaying playlist. | Works but some edge cases break list links or size. | Broken insertion. | 5/7 |
|  |  | **removeSongByTitle(...)** | Deletes by title; handles head/single/missing; updates size & links correctly. Screenshot required before and after removal. | Works but leaves broken links or wrong size. | Fails or corrupts list. | 5/7 |
|  |  | **searchSongByTitle(...)** | Finds node; reasonable matching (case-insensitive preferred); traversal does not break list. Screenshot required for found and not found cases. | Works but limited (case-sensitive only or minor issues). | Missing or always fails. | 4/6 |
|  |  | **displayPlaylist()** | Traverses safely; prints numbered, aligned, MM:SS; preserves list state. Screenshot required of displayed playlist. | Traverses but skips nodes or formatting weak. | Poor/incorrect traversal. | 5/5 |
|  |  | **clearPlaylist()** | Deletes all nodes safely; size→0; head reset. Screenshot required showing empty state after clear. | Deletes some nodes but leaves leaks/dangling head. | Broken. | 6/6 |
|  |  | **toggleShuffleMode()** | Toggles & shows shuffled order (any valid method); list remains intact. Screenshot required before and after shuffle. | Toggles but weak feedback or list integrity uncertain. | No effect. | 3/4 |
|  |  | **Utilities (isEmpty(), getTotalSongs())** | Correct, consistent with actual list; used in UI. | Present but inconsistent with real list state. | Incorrect/missing. | 4/5 |
| **D. User Interface & Validation (10 pts)** |  | **Output formatting** | Columns aligned; numbering; MM:SS duration. Screenshot required of formatted output. | Mostly formatted; small issues. | Raw/messy. | 5/5 |
|  |  | **Input validation** | Validates menu, duration, rating (1–5), empty list ops. Screenshots required of invalid inputs and error messages. | Partial validation. | None; crashes/hangs. | 3/5 |
| **E. Testing Evidence (20 pts)** |  | **Program runs** | Comprehensive set: add, display, remove, search, shuffle, clear. Screenshots required. | Several core features shown; a few missing. | Sparse/irrelevant. | 10/10 |
|  |  | **Validation cases** | Clear evidence of invalid inputs & error messages: bad menu, non-int duration/rating, rating out of range, file errors, empty playlist ops. Screenshots required. | Some validation tested. | Little/none. | 8/10 |
| **F. Memory & Code Quality (10 pts)** |  | **Memory management** | No leaks (e.g., clearPlaylist() and destructor logic verified). | Minor leaks suspected. | Leaks/crashes/UB. | 4/5 |
|  |  | **Style & documentation** | Modular, readable, meaningful names, targeted comments. | Adequate style; light comments. | Disorganized/unclear. | 5/5 |

**Total: 85/100**